Coinciding with the 20th anniversary of the MIT Pappalardo Fellowships, the Department is pleased to announce that for the first time in the premier postdoctoral program’s history, all members of the incoming class of Pappalardo Fellows are women physicists.

Arriving this Fall are two alumnae of the Department: Mallika Randeria and Katelin Schutz, along with Anna-Christina Eilers.

“We’ve attracted spectacular women physicists to the program from the very beginning,” said Neil Pappalardo, who, with his wife Jane, initiated the MIT Pappalardo Fellowships in Physics program. “It has been thrilling to see the unbelievably high caliber of all those who continue to come through the Pappalardo Fellowships program.”

Physics Department Head Professor Peter Fisher noted that, “The Pappalardo Fellowship Program has become an essential part of the Department and I am particularly excited about this outcome of the committee’s organic process.”

Anna-Christina Eilers
Anna-Christina Eilers studies observational astrophysics, and her main area of interest is the formation and growth of supermassive black holes in the center of quasars in the early universe.

A 2019 PhD student at the Max Planck Institute for Astronomy (MPIA) in Heidelberg, Germany, she also received a fellowship from the German National Academic Foundation.
Born in California, Eilers received her BSc in physics in 2011 from the University of Göttingen, Germany, and her MSc in physics in 2015 from the University of Heidelberg, Germany. In addition to the 2019-2022 Pappalardo Fellowship, she also received the Hubble Fellowship, which will extend her MIT appointment to August 2024.

**Mallika Randeria**

Mallika Randeria earned her PhD at Princeton University, where she worked in experimental condensed matter physics as part of Ali Yazdani’s group. At MIT, Randeria is interested in exploring emergent quantum phenomena in two-dimensional materials using complementary global measurement techniques, including electronic transport. Randeria grew up in Mumbai, India, and attended high school in Ohio. She received her undergraduate degree in physics from MIT in 2012, and in 2015 her master’s in physics from Princeton, where she was a Charlotte Elizabeth Procter Fellow and NSF Graduate Research Fellow.

**Katelin Schutz**

Katelin Schutz completed her 2019 physics PhD under the supervision of Hitoshi Murayama at UC-Berkeley, where she was a Berkeley Fellow, NSF Graduate Research Fellow, and Hertz Fellow. Schutz is interested in theoretical particle astrophysics. Along with the Pappalardo Fellowship, she received a Center for Theoretical Physics fellowship, which will extend her MIT appointment for an additional two years. Schutz received her BS in physics at MIT in 2014, and did UROPs with Max Tegmark, Alan Guth, David Kaiser, and Tracy Slatyer. She received MIT’s Barrett Astrophysics Prize, the Orloff Award for Service (in 2013 and 2014), and a Lord Foundation Undergraduate Research Fellowship; she was also an American Physical Society LeRoy Apker Award finalist. (S. Miller)

Detailed biographies, including research descriptions and selected publications for all Pappalardo Fellows, are available at web.mit.edu/physics/research/pappalardo/index.html. The MIT Pappalardo Fellowships in Physics program was initiated, and is sustained, by funds generously provided by A. Neil and Jane Pappalardo.
The Department celebrated its 14th annual Patrons of Physics Fellows Dinner on April 12, 2019. Over 70 guests gathered for a dinner and reception in the Green Center’s Pappalardo Room.

Professor Peter Fisher, Physics Department Head, started the evening with updates on the Department and remarks about the importance of fellowship support, which helps to attract the top students and gives them the freedom to try different research areas. Seth Musser, Frank Fellow; Stella Schindler, Peskoff Fellow; and Christophe Whittle, 2017-2018 Whiteman Fellow, were the student presenters. Patron donor Tom Frank concluded the evening with remarks on the importance of fellowships and scientific research and why he feels it is important to give back. Also in attendance were Michael Bos, Hale Bradt, Elizabeth Bradt, Neil Constable, Jim and Sylvia Earl, George Elbaum and Mimi Jensen, Alex Hastings, William Ladd and Anita Busquets, Curtis Marble, Mark Mueller, Arthur and Fran Peskoff, and Paul and Vesna Swartz. (D. Forde)
TALKS IN LONDON & CALIFORNIA


Department Head Professor Peter Fisher and Francis L. Friedman Professor of Physics Robert Simcoe traveled to California in October 2018. On the 17th, Professor Simcoe gave a talk, “Giant Eyes on the Early Universe,” at the Palo Alto Hills Golf Course & Country Club. Simcoe was appointed Director of the MIT Kavli Institute for Astrophysics and Space Research in January 2019.

Jacqueline Hewitt

Department Head Peter Fisher and Julius A. Stratton Professor of Physics Jacqueline Hewitt traveled to London in May 2019. Professor Hewitt gave a talk, “MIT’s Transiting Exoplanet Survey Satellite (TESS): Searching for Habitable Planets,” at the IET London Savoy Place on the 15th. The talk was attended by over 80 of MIT’s alumni parents and friends. (D. Forde)

18TH ANNUAL PAPPALARDO FELLOWSHIPS IN PHYSICS SYMPOSIUM

The Department’s renowned postdoctoral fellowship program, the Pappalardo Fellowships in Physics, held its 18th annual symposium on May 9, 2019, as the academic year approached its end. Five fellows from the current membership of talented young physicists prepared intensely for presentations on their research, designed for the enjoyment of members and friends of the MIT physics community.

Emceed by Department Head Peter Fisher, the symposium opened with introductory remarks by alumnus and longstanding Department supporter Dr. Mark Mueller ’78, a research scientist in the Center for Theoretical Physics working on aspects of quantum entanglement, including understanding properties of entanglement entropy in quantum field theory and many-particle systems.

Observational astronomer and experimental astrophysicist Dr. Steven Villanueva led the talks (“The Search for Giant Planets Missed by the Transiting Exoplanet Survey Satellite (TESS),” followed by particle theorist
Dr. Bernhard Mistlberger (“Precision Predictions for Particle Physics”); condensed matter experimentalist Dr. Denis Bandurin (“Viscous Electronics in Graphene”); theoretical condensed matter physicist Dr. Hoi Chun “Adrian” Po (“Topological Materials as Quantum Corrections to High School Chemistry”); and wrapped up with theoretical astrophysicist Dr. Carl Rodriguez (“The Era of Gravitational-wave Astronomy”).

Joining physics faculty, students, postdocs and staff in the Pappalardo Community Room were program founder and benefactor Neil Pappalardo, along with his grandsons Declan Pappalardo and Wilder Daniel, and sons-in-law novelist Todd Lemke and sculptor Christopher Frost. Also in the audience were longstanding Department friends alumni Curt Marble and Meditech, Inc., CEO Howard Messing with his wife Colleen.

Videos of this and prior Pappalardo Fellowships symposia are available online at web.mit.edu/physics/research/pappalardo/symposia_archive.html. For more information on the Pappalardo Fellowships in Physics program, its Fellows and founders A. Neil and Jane Pappalardo, please visit web.mit.edu/physics/research/pappalardo/index.html. (C. Breen)

MIT’s 10-250 Huntington lecture hall was nearly at full capacity for the May 20, 2019, debut of “The New Kilogram” by John D. MacArthur Professor of Physics and Nobel Laureate Wolfgang Ketterle. The atomic physicist crafted a presentation that explained how, for the first time as of May 20, all of the basic units of measurement will be officially defined in terms of atomic properties and fundamental physics constants, rather than specific, human-made objects. In the talk, both the concepts behind a new definition of the kilogram and the techniques for its measurement were explained in depth. For links to Professor Ketterle’s guide for teachers and students and a more detailed popular article on the new kilogram, visit www.rle.mit.edu/cua_pub/ketterle_group/home.htm.